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University of Illinois
Extension Service in Agriculture and Home Economics

College of Agriculture
Animal Husbandry Department
Sheep Division
Project 340

FEEDING WESTERN LAMBS

October 20, 1944, to January 20, 1945
W. G. Kammlade

Feeder lamb prices were high in relation to fat lamb prices in the fall of 1944. This was especially true of lambs from the Northwestern ranges. Since Texas feeder lambs were selling at a considerable discount compared with the lambs from the Northwest, Texas lambs were bought for the feeding project during the winter of 1944-45. There is always much discussion of the relative merits of lambs from these two areas. The project did not involve a comparison of lambs, but experience at this Station shows that there are other matters in profitable feeding of more importance than the district from which the lambs come, although the place where the lambs were raised has some bearing on their management in the feed lot. In general lambs from the Northwest are more shapely because medium-wool, mutton-type rams are used in that section. Texas lambs are still chiefly of fine-wool breeding, but they are of more desirable quality than was true a few years ago. Body shape, however, may not be the most important thing that influences the rate and economy of gain. The lambs this year gained faster than some lots of Northwestern lambs, but they did not gain so fast as the best lots of Northwestern lambs that have been fed experimentally at this Station.

The lambs cost \$10 per hundredweight and were bought at and shipped from Del Rio, Texas. Ten lambs died before arrival here. The average purchase weight of 284 head was 64.3 pounds. They were on route eight days. They were driven from the cars to the barns and placed on an acre of pasture. The next day the average weight was 58.6 pounds. There was an average shrink of 5.7 pounds en route. All of this was regained on pasture during the next ten days.

When unloaded the lambs appeared to have had a very hard shipment, and a number had been injured. Others were scouring. Three days after arrival all were drenched with phenothiazine for the removal of internal parasites. Some fecal examinations showed this treatment advisable.

After resting and grazing on pasture for ten days the lambs were returned to the feed lots where, after being ear-tagged, they underwent the usual three days' consecutive weighings as a basis of dividing into lots. During those three days all of the lambs were fed on corn silage and were given no other feed. At the start of the feeding the lots looked uniform with respect to range in size and other features. The average weight of all lambs was 64.3 pounds, and no lot differed greatly from this average weight. At the start of the test Lots 1 and 2 had 40 lambs each; all others 45 lambs each.

During the past summer some yearling wethers and some breeding ewes had been fed rather large amounts of soybean oil meal. It was thought that the use of a liberal quantity of soybean oil meal at the beginning of the feeding period might be a good method of starting lambs on feed. This was tried with the lambs of Lots 2 and 4. In addition to earlier tests some further studies with urea as a source of protein were made with the lambs of Lot 6. In this case ten pounds of urea were added per ton of corn silage as the silage was made. A year ago two lots of lambs were fed on soybean oil meal as the only concentrate. This was repeated with one lot (Lot 5) in the test now reported.

Summary of Data for Lamb Feeding Project 340
October 20, 1944, to January 20, 1945--92 days

(All data on single lamb basis. All weights and gains in pounds unless otherwise shown.)

	<u>Lot 1</u>	<u>Lot 2</u>	<u>Lot 3</u>	<u>Lot 4</u>	<u>Lot 5</u>	<u>Lot 6</u>
No. lambs on which data are based	37	37	42	43	45	43
Average final weight	95.9	99.5	89.4	94.4	95.9	85.9
Average initial weight	64.3	64.6	64.2	64.6	64.0	64.4
Average gain	31.6	34.9	25.2	29.9	31.9	21.5
Average daily gain	0.34	0.38	0.27	0.32	0.35	0.23
Daily feed						
Shelled corn	1.05	0.99	0.95	0.93	--	0.95
Soybean oil meal	--	0.34	0.14	0.33	0.93	0.06
Alfalfa hay	1.73	1.47	--	--	--	--
Corn silage	--	--	2.73	2.70	3.80	2.72
Limestone, oz.	--	--	0.5	0.5	0.5	0.5
Feed for 92 days						
Shelled corn	96.9	91.5	87.4	85.6	--	87.1
Soybean oil meal	--	31.6	12.9	30.2	85.7	6.0
Alfalfa hay	159.4	135.2	--	--	--	--
Corn silage	--	--	251.7	248.6	349.5	250.3
Limestone	--	--	3.3	3.2	3.1	3.2
Percent roughage refused	4.3	4.9	7.4	6.0	2.1	7.2
Feed per cwt. gain						
Shelled corn	306	262	346	286	--	405
Soybean oil meal	--	90	51	101	269	28
Alfalfa hay	504	387	--	--	--	--
Corn silage	--	--	995	832	1095	1163
Limestone	--	--	13	11	10	15
Feed cost per 100 pounds gain ^{1/}	\$ 11.76	\$ 11.86	\$ 11.20	\$ 10.82	\$ 11.02	\$ 12.26
Cost per lamb @ \$11 per cwt. ^{2/}	7.08	7.08	7.08	7.08	7.08	7.08
Feed cost ^{1/}	3.72	4.14	2.82	3.23	3.52	2.64
Total cost inc. 75¢ per lamb marketing	11.55	11.97	10.65	11.06	11.35	10.47
Selling wt., Chicago	92.3	93.8	89.7	91.0	90.2	86.5
Shrink in shipping	4.8	5.7	3.2	4.5	6.1	2.8
Value per head ^{2/}	\$ 13.33	\$ 14.40	\$ 12.93	\$ 13.73	\$ 13.75	\$ 12.44
Profit per lamb ^{3/}	2.28	2.43	2.28	2.67	2.40	1.97
Dressing percentages	48.4	48.5	49.6	49.4	48.9	46.0
Carcass grades						
Choice or AA	13	7	0	31	13	4
Good or A	17	29	32	8	30	28
Commercial or B	4	1	2	2	1	2

^{1/} Feed costs used: corn, \$1.00 bu.; soybean oil meal, \$52 ton; alfalfa, \$25 ton; corn silage, \$7.25 ton; limestone, \$1.25 cwt.; urea, no charge.

^{2/} Includes phenothiazine treatment, commission charges, freight and feed to Champain and is based on buying weight.

^{3/} All lambs sold brought \$15.35 per cwt.; a few lambs from each lot, except Lot 1 not sold because of lack of finish. They were valued @ \$13 per cwt. Average shrinkages and marketing costs were deducted for all lambs not sold.

Throughout the trial the lambs were in dry lot. All were hand-fed twice daily, and all had free access to salt and water. The corn was No. 2 grade yellow. The soybean oil meal was labeled as containing 41 percent protein. The silage was of good quality, although it was not all from one field nor was it all stored in one silo. Most of the corn from which the silage was made would have yielded 85 or 90 bushels per acre. The silage was hauled from the feed storage plant to the sheep barns. During cold weather much of it was frozen before the lambs ate it. Silage frozen in that way has never caused any trouble. Apparently there is much unfounded suspicion of some feeds.

Results

A study of the table will reveal many of the details of the project. But there are some matters which are not shown. In all lots except Lot 5 some lambs died or were removed. The cause of removal was an ailment not previously observed here in any experimental lambs. The lambs became very stiff, and any movement was painful and difficult. They were unable to stand, although they ate and drank. Studies by the Department of Animal Pathology and Hygiene showed the trouble was an infectious arthritis or rheumatism (streptococcic arthritis and pericarditis). Most of the affected lambs recovered, and the disease did not appear especially contagious. No treatment used seemed to be helpful. The lambs were removed from the project, as the trouble had no relation to the feeding. The cause of death of one lamb from each of Lots 2, 4, and 6 was described as enterotoxemia or overeating.

The lambs of Lot 1 were fed the standard ration of shelled corn and alfalfa hay. They responded about the same as lambs always have to this ration, although the average daily grain consumption of 1.05 pounds was less than in most previous experiments. This was probably due as much to the manner of feeding as to the lambs. On the basis of feed lot weights, 306 pounds of corn and 504 pounds of hay were required for 100 pounds' gain. The lambs of this lot were not evenly finished. This was undoubtedly due in part to the fact that some were slightly affected by rheumatism. At the prices used (see footnote to table) the feed cost per 100 pounds' gain was \$11.76. The lambs in this lot returned a profit of \$2.28 per head above all costs with the exception of interest and labor.

The lambs of Lot 2 were also fed shelled corn and alfalfa hay. In addition they were fed soybean oil meal. The soybean oil meal was very liberally fed at the start of the test and was gradually replaced with corn. Many feeders have assumed that liberal amounts of soybean oil meal are harmful, but there was no evidence to that effect in this or a previous test. These lambs were fed one-half pound of soybean oil meal per head daily for the first three days. For the next eleven days they were fed from 0.75 pound to 1.0 pound daily per head. A quarter pound of corn per head was fed daily beginning six days after the experimental period had begun. After ten days the corn was increased to 0.75 pound daily, and the soybean oil meal was then reduced as the corn was further increased. Only 0.1 pound of soybean oil meal was fed per lamb daily during the last 36 days.

Compared with the lambs of Lot 1 those of Lot 2 gained 3.3 pounds more per head. The feed cost of 100 pounds' gain was \$11.86 in Lot 2 compared with \$11.76 in Lot 1. The profit was \$2.43 per head, or 15 cents more than in Lot 1. The lambs of Lot 2 were a little better finished than those of Lot 1, although the dressing percentage was almost the same for both lots. The dressing percentages and carcass grades were secured through the cooperation of the purchaser of all the lambs.

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Extension Service in Agriculture and Home Economics
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ILLINOIS LIVESTOCK TIMELY TOPICS FOR FARM ADVISERS^{1/}

What Price Feed Efficiency For Hogs

Some hog producers manufacture 100 pounds of pork with less feed than others. In the Three-Year Report of the Illinois Valley Farm Bureau Farm Management Service covering the years 1943, 1944, and 1945, actual farm records bear out this fact. For the 163 farms reporting, the average amount of feed required to produce 100 pounds of pork was 432 pounds of grain and 45 pounds of protein and mineral feeds. Fifty-four farms with the high returns for feed fed to hogs used 387 pounds of grain and 40 pounds of protein and mineral feeds to produce 100 pounds of pork, whereas the 54 farms with the low returns for feed used 489 pounds of grain and 48 pounds of protein and mineral feeds.

If we assume that all the grain was corn and that all the feed classed as protein and mineral was a good supplement including minerals, we can arrive at comparative cost figures. Corn was worth \$1.67 a bushel, average farm price for April, and supplement about \$100 a ton. On the basis of these assumed prices and the amounts given above, the most efficient producers used \$13.52 worth of feed in producing 100 pounds of pork and the least efficient group \$16.18 worth of feed. The average for the entire group was \$15.10. Generally speaking, feed cost makes up about 80 percent of the total cost of producing hogs. If we increase the above-listed figures one-fourth to allow for other costs, we get a total cost figure of \$16.90 a hundred pounds for the most efficient group of feeders, \$20.22 for the least efficient group, and an over-all average of \$18.87.

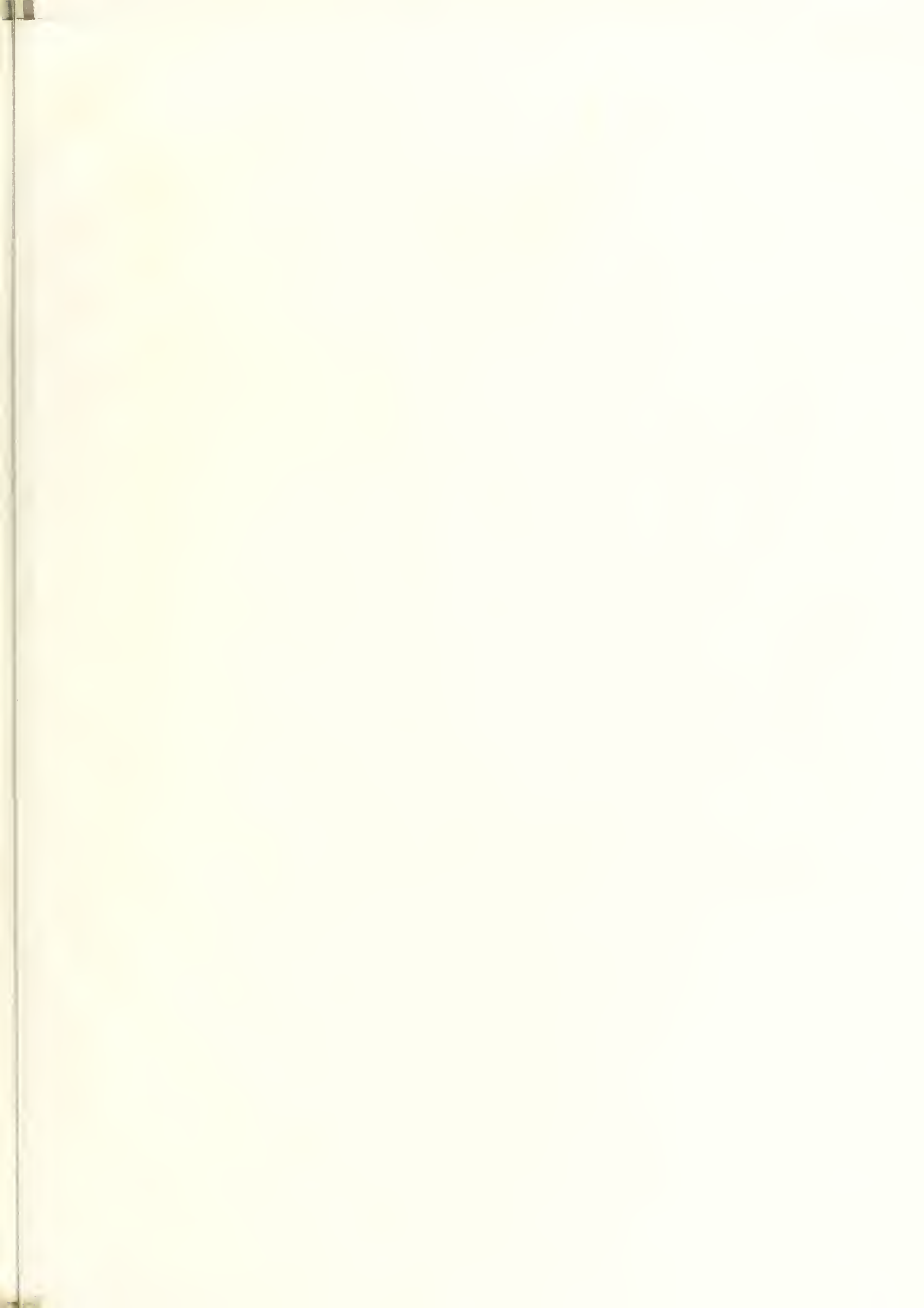
Producers manufacturing pork at a cost of \$2.00 per 100 pounds below the average of 162 of their good neighbors should be better able to withstand the impact of cost increases or a decline in the price of hogs.

What's Time to a Hog?

During the past three years, feeding trials carried on at Purdue University have shown the value of alfalfa pasture for spring pigs. Seventy-five-pound pigs were self-fed shelled corn and a simple mineral mixture on good alfalfa pasture. Lot I received no supplement, Lot VI a 35 percent home-mixed supplement free-choice. Each lot was taken off experiment at 200 pounds in weight. Lot I made the weight in 78 days and used 329 pounds of corn per hundredweight gain. Lot VI made the weight in 67 days, using 283 pounds of corn and 55.8 pounds of supplement per hundredweight gain. It took 55.8 pounds of the supplement to replace 45.9 pounds of corn, when the pigs were simply given 11 days more time. These results emphasize the fact that hogs can get their protein from good legume pasture but while handling the necessary bulk to do it do not eat enough grain to gain so rapidly as pigs fed supplement in a more concentrated form.

^{1/} Prepared by H. G. Russell, Associate Professor, Animal Husbandry Extension, Department of Animal Husbandry

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